Inclusive e^+e^- pair production in cold nuclear matter

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Within the HADES physics program currently conducted at the SIS 18 facility of GSI Helmholtzzentrum, Darmstadt, the study of meson properties and dielectron emissivity of nuclear matter at ground state density and temperature is of particular interest. Therefore the production of light vector mesons via their electromagnetic decay branches in e^+e^- pairs was measured in the reaction system p + Nb at $E_{kin} = 3.5 \text{ GeV/c}^2$. A clear signal of ρ and ω meson decays could be observed. Preliminary invariant mass spectra and p_{\perp} distributions of e^+e^- pairs will be presented. Furthermore we compare our results to cocktail simulations of elementary hadronic sources as well as to data of p + p reactions, which was measured by the HADES experiment at the same beam energy.

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